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AUTHOR	Wang, Margaret C.; Haertel, Geneva D.; Walberg, Herbert J.
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ABSTRACT

A knowledge base on influences on student learning is emerging from a study that analyzed the contents of 179 handbook chapters and reviews, compiled 91 research syntheses, and surveyed 61 educational researchers. This analysis presents results of the research by using a 28-category conceptual framework based on models of schooling that influenced learning. To better indicate the influences that were important, the 28 categories are grouped into 6 broad types of influences: (1) student characteristics; (2) classroom instruction and climate; (3) home, peer, and community context; (4) program design; (5) school organization; and (6) state and district characteristics. All 28 categories are listed, and an average score is been derived for each to indicate its importance. In general, direct influences were found to have a greater impact on learning than indirect influences. Direct influences include such things as the amount of time a teacher spends on a topic and the quality of the interactions teachers have with students. Indirect influences included policies adopted by a school, district, or state, and organizational features such as site-based management. (SLD)

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Spotlight on Student Success.

Margaret C. Wang
Geneva D. Haertel
Herbert J. Walberg

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LSS Spotlight on Student Success

A digest of research from the Laboratory for Student Success No. 209

What Helps Students Learn?[1]

by
Margaret C. Wang, Geneva D. Haertel, and Herbert J. Walberg

Changes in education should be grounded in a knowledge base derived from research; such a base is now emerging. By analyzing the content of 179 handbook chapters and reviews, compiling 91 research syntheses, and surveying 61 educational researchers, the authors of this study compiled a knowledge base comprised of 11,000 statistical findings that shows consensus on the most significant influences on student learning.

The results of the research analysis were summarized using a 28-category conceptual framework based on models of schooling that posited influences on learning. To better understand which influences were most important, the 28 categories were grouped into six broad types of influences: student characteristics; classroom instruction and climate; home, peer, and community context; program design; school organization; and state and district characteristics. The 28 categories of the concetpual framework are listed in this *Spotlight*, along with a representative variable for each category.

By combining the results from the content analysis, the research synthesis, and the survey of experts, an average score was obtained for each of the 28 categories. This score represents the degree of influence of each category. Figure 1 presents the 28 categories of influence, from most to least influential.

In general, direct influences were found to have a greater impact on learning than indirect influences. Direct influences, for example, include the amount of time a teacher spends on a topic and the quality of the social interactions teachers have with their students. Examples of indirect influences include policies adopted by a school, district, or state and organizational features such as site-based management.

The estimates obtained on the effectiveness of various educational strategies for improving student learning provide a set of considerations for formulating educational policies and practices as well as a way to identify school improvement priorities. Overall, findings show renewed emphasis on psychological, instructional, and contextual influences.

Paradoxically, the state, district, and school policies that have received the most attention in recent years appear to have the least influence on learning. Because indirect influences may only affect direct influences, they appear to be weaker and less consistent in their results. For example, implementing a districtwide policy for teacher evaluation does not guarantee that students in any given classroom will have a competent teacher.

Unless reorganizing and restructuring strongly affect direct influences on learning, they offer little hope of substantial improvement. Changing policies is unlikely to change practices in classrooms and homes, where much of learning actually takes place. Better alignment of remote policies and district practices and more direct intervention in the psycholgoical determinants of learning promise the most effective avenues of reform.

Twenty-Eight Categories of Influence on School Learning

Student Characteristics includes gender, academic history, and a variety of social, behavioral, motivational, cognitive, and affective characteristics.

1. **Metacognitive Processes**
   Comprehension monitoring (planning, monitoring effectiveness of attempted actions and outcomes of actions; testing, revising, and evaluating learning strategies)
2. **Cognitive Processes**
   Level of specific academic knowledge in subject area instructed
3. **Social and Behavioral Attributes**
   Positive, nondisruptive behavior
4. **Motivational and Affective Attributes**
   Attitude toward subject matter instructed
5. **Psychomotor Skills**
   Psychomotor skills specific to area instructed
6. **Student Demographics**
   Socioeconomic status

Classroom Instruction and Climate includes classroom routines and practices, characteristics of instruction, classroom management, monitoring of student progress, quality and quantity of instruction, student/teacher interactions, and classroom atmosphere.

7. **Classroom Management**
   Group alerting (teacher uses questioning/recitation strategies that maintain active student participation)

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8. **Student and Teacher Social Interactions**
   Student responds positively during interactions with teachers and other students
9. **Quantity of Instruction**
   Time on task (amount of time students are actively engaged in learning)
10. **Classroom Climate**
    Cohesiveness (class members are friends, share common interests and values, and emphasize cooperative goals)
11. **Student and Teacher Academic Interactions**
    Frequent calls for extended, substantive oral and written response (not one-word answers)
12. **Classroom Assessment**
    Use of assessment as a frequent, integral component of instruction
13. **Classroom Instruction**
    Use of clear and organized direct instruction
14. **Classroom Implementation and Support**
    Establishing efficient classroom routines and communicating rules and procedures

Home, Peer, and Community Context includes community demographics, peer culture, parental support and involvement, and the amount of out-of-class time students spend on activities such as television viewing, leisure reading, and homework.

15. **Home Environment and Parental Support**
    Parental involvement in ensuring completion of homework
16. **Peer Group**
    Level of peers' academic aspirations
17. **Community Influences**
    Socioeconomic level of community
18. **Out-of-Class Time**
    Student participation in clubs and extracurricular school activities

Program Design refers to the physical and organizational arrangements for instructional delivery and includes strategies specified by the curriculum and characteristics of instructional materials.

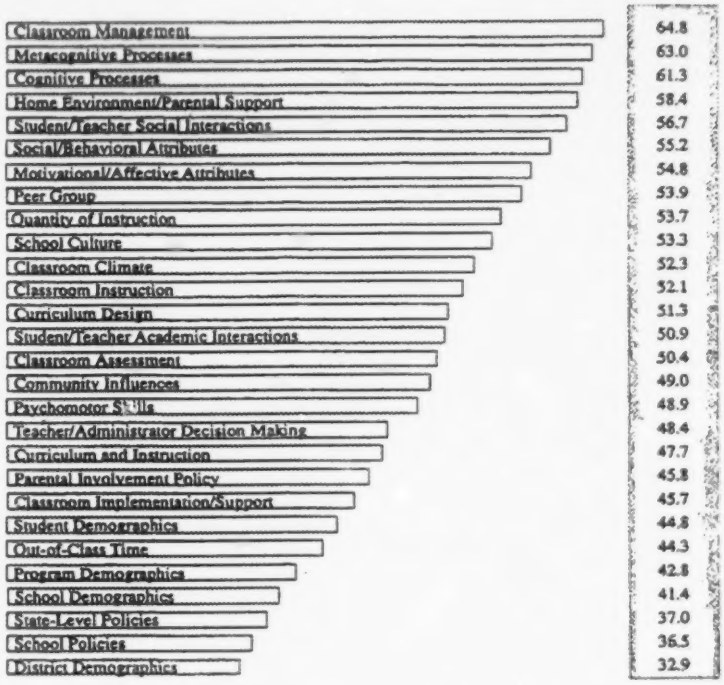

Figure 1. Relative Influences on Learning.

19. **Curriculum Design**
    Instructional materials employ advance organizers
20. **Program Demographics**
    Size of instructional group (whole class, small group, one-on-one instruction)
21. **Curriculum and Instruction**
    Alignment among goals, content, instruction, student assignments, and evaluation

School Organization refers to culture, climate, policies, and practices, and includes demographics of the student body, whether the school is public or private, funding for categorical programs, school-level decision-making variables, policies, and practices.

22. **School Culture**
    Schoolwide emphasis on and recognition of academic achievment
23. **Teacher/Administrator Decision Making**
    Principal actively concerned with instructional program
24. **Parental Involvement Policy**
    Parental involvement in improvement and operation of instructional programs
25. **School Demographics**
    Size of school
26. **School Policies**
    Explicit schoolwide discipline policy

State and District Characteristics refers to governance and administration, state curriculum and textbook policies, testing and graduation requirements, teacher licensure, provisions in teacher contracts, and district-level administrative and fiscal variables.

27. **State-Level Policies**
    Teacher licensure requirements
28. **District Demographics**
    School district size

[1]Adapted from M.C. Wang, G.D. Haertel, & H.J. Walberg, Synthesis of research: What helps students learn? *Educational Leadership*, December 1993/January 1994, 74-79.

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